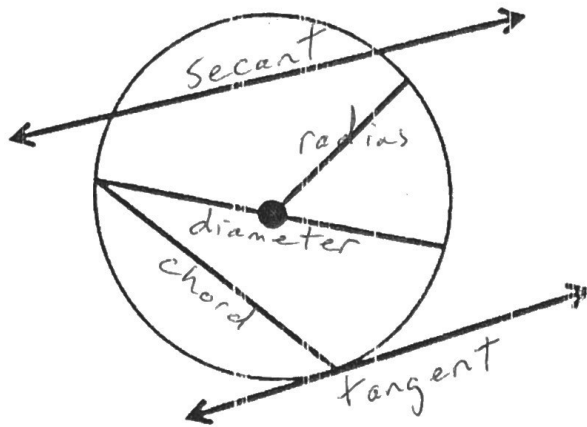


Fill in your TIP Chart and then name the term that best describes each piece of the picture below

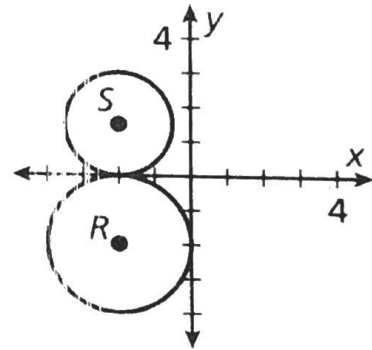


1. Find the length of each radius.

$\odot S$ radius = 1.5 $\odot R$ radius = 2

2. Identify the ^{common} point of tangency.

$(-2, 0)$



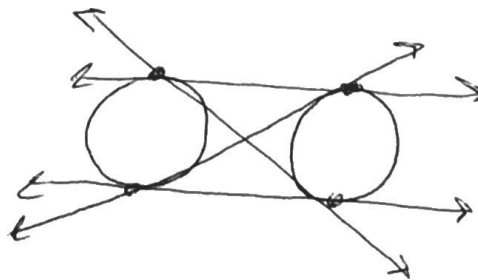
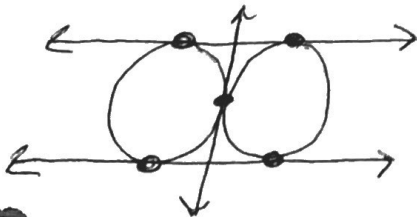
3. Write the equation of the tangent line going through that point.

$y = 0$

Take Away # 1

Q: What are Common Tangent Lines?

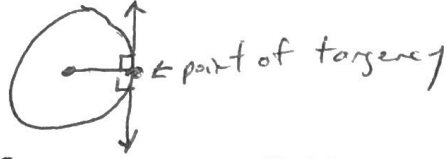
When two circles share a tangent line



Take Away # 2

Q: What is the relationship between the point of tangency and the radius?

The radius forms a 90 degree angle with a tangent line at the point of tangency.

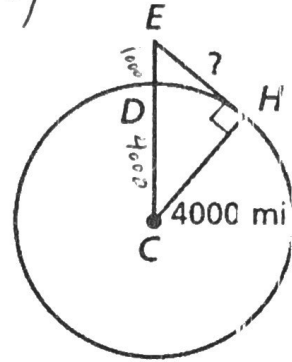


4. How would you classify segment EH?
tangent segment

5. What is EH if DE = 1000 miles?

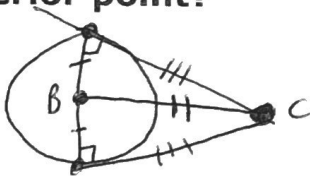
$$x^2 + (4000)^2 = 5000^2$$

$$x = 3000$$



Take Away # 3

Q: What happens when two tangent lines intersect at a common exterior point?



* party hat problems



The tangent segments are congruent when they meet at a common exterior point.

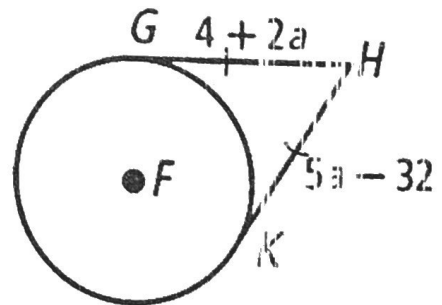
6. Given that HG and HK are both tangent to circle F. Find the length of HG?

$$4 + 2a = 5a - 32$$


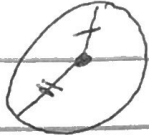

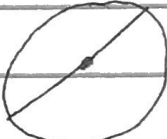
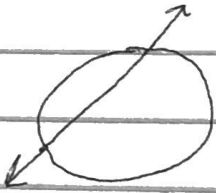
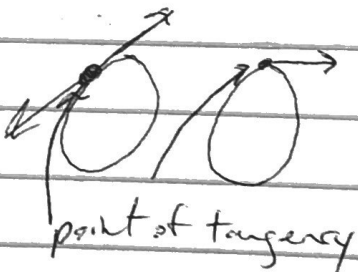
$$36 = 3a$$

$$12 = a$$

$$4 + 2(12) = \boxed{28}$$



Unit 7 - Circles

Term	Information	Picture	
1/7/19	circle	set of points equidistant from a fixed center from a fixed center	
radius $r = \frac{d}{2}$	the distance from the center to any point on its boundary		
chord	a <u>segment</u> whose endpoints are on the circle		
diameter $d = R \times 2$	the distance across the circle through its center # longest chord		
secant	a line that intersects a circle twice		
tangent	a line/ray/segment that intersects a circle <u>once!</u>	 <p>point of tangency</p>	